UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,684	05/24/2001	Pierre Brunelot	24648	3103

20529 7590 07/18/2003

NATH & ASSOCIATES
1030 15th STREET
6TH FLOOR
WASHINGTON, DC 20005

EXAMINER	
KUHAR, ANTHONY J	
ART UNIT	**PAPER NUMBER**
1754	9

DATE MAILED: 07/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/856,684	BRUNELOT ET AL.	
	Examin r	Art Unit	
	Anthony J Kuhar	1754	

-- The MAILING DATE of this communication app ars on the cov r sh et with th correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *6/17/03 in paper no. 8* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Double Patenting

Claims 1-15 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-22 of U.S. Patent No. 6576807 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because Brunelot '807 recites in claims 14 that means for disposing oxygen into the bath of glass passes through the bottom of the reactor and presents an opening 90 to a vertical axis. Claim 15 also recites a cooling circuit for cooling the means for supplying oxygen into the bath of glass. Even though the patent does not explicitly state that these are the methods by which plug formation is prevented in the oxygen supplying means, plug formation would still be prevented since these features would inherently prevent plug formation if oxygen supply is ceased. The concepts presented in claims 14 and 15 are the actual method by which plug formation is prevented in the current application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 9, 10, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiss '722.

Column 1, lines 5-10 teach treating heterogeneous waste materials in a high temperature reactor using oxygen lances for all three phases of material. Column 2, lines 47-58 teach melted down inorganic components, which would appear to comprise glass since the reactor received heterogenous waste. Column 2, lines 50-60 teach at least one oxygen lance protruding into the gases phase, arranged in such a direction as to oppose the flow of the gasification components. A partial amount of oxygen is flowed even when no oxygen is necessary, and combustion gases take this oxygen to the opposite direction of the lance, causing the lance to cool. Thus, the oxygen itself acts to cool the lance, but the lance contains no cooling circuit per se. Column 3, ine 65 to column 4, line 15 teach water cooled oxygen lances protruding into the melt zone. Due

to high velocity of the oxygen, clogging of the oxygen lance is prevented. Since Kiss '722 teaches injecting oxygen into the melt using multiple lances, and to arrange the oxygen lance below melt as to reinforce the flow direction of the melt (See column 2, line 47), it appears that metal forming is reduced within the bath and moderate stirring is imparted on the bath.

Claims 5-8, 12, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiss '722 as applied to claims 1-3, 9, 10, 16, and 17 above, and further in view of Mason '350.

The rejection of claims 1-3, 9, 10, 16, and 17 as being unpatentable over Kiss '722 is applied herein. Kiss does not teach is reactor is heated by induction, that it is suitable for treatment of radioactive waste, and that the oxygen lance entering the gas phase and feed inlet has cooling circuits.

However, in a reactor that operates on the same principles of Kiss '722, Mason teaches in column 2, lines 36-55 a multiple walled reactor, which has cooling fluid circulating therein. Column 8, lines 4-12 teach water cooled oxygen lances which can be inserted into the gas phase or the molten phase. Column 3, lines 15-30 teach electrodes for heating the waste, and column 8, line 46 teach induction coils for heating. Column 1, lines 6-7 teach the reactor is suitable for radioactive waste. At the time the invention was made it would have been obvious to one of ordinary skill in the art to employ a water cooled reactor and/or water cooled oxygen lance penetrating into the gas phase of the reactor of Kiss '722 because Mason '350 teaches in column 2, lines 48-53 that a water cooled jacket provides better temperature control by acting as a large heat sink. It also appears that the circulated water is maintained at a temperature higher than the

dewpoint of the gas phase in the reactor since no condensation is taught inside the reactor and column 9, line 45 teaches the coolant is a water/steam jacket at 15-25 psig. It would also have been obvious to one of ordinary skill in the art to employ electrode and/or induction heating as taught by Mason '350 to heat the reactor of Kiss '722 because these are methods known in the art to generate large amounts of heat in reaction systems.

Claims 9, 10, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Floyd '626.

Column 2, line 65 to column 3, line 10 of Floyd '626 teaches charging waste to a reactor system having a molten slag bath at the bottom. An oxygen providing lance penetrates into the molten bath to provide oxygen. Column 9, lines 10-60 teach the lance has multiple annuli. One annulus extends all the way down into the bath. The other extends only to the gas phase. Each of these annuli provides oxygen needed for treatment and combustion. In between these annuli is another space which cooling fluid circulates to control the temperature of both annuli. It appears that the combination of cooling system and the lance top-submerged into the bath would be sufficient to prevent plug formation in the lance delivering oxygen beneath the surface of the bath. Column 3, lines 63-66 teach a water or steam-cooled heat exchanger placed around the reactor.

Response to Arguments

Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony J Kuhar whose telephone number is 703-305-7095. The examiner can normally be reached on 8:45 am - 5:15 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stan Silverman can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

AK
July 3, 2003

STANLEY S. SILVERMAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700